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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/566,881

02/02/2006

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EXAMINER

AHN, SAM K

ART UNIT

PAPER NUMBER

2611

MAIL DATE

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10/13/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/566,881	<b>Applicant(s)</b> BOYCE ET AL.	
	<b>Examiner</b> SAM K. AHN	<b>Art Unit</b> 2611	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-10 and 12-32 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see p.7, filed 08/02/10, with respect to claim objections have been fully considered and are persuasive. The objection of claims 1-11 has been withdrawn.
2. Applicant's arguments, see p.7, filed 08/02/10, with respect to 112 Rejection of claim 32 have been fully considered and are persuasive. The rejection of claim 32 has been withdrawn.
3. Applicant's arguments filed 08/02/10 have been fully considered but they are not persuasive. Regarding 102(b) rejection of claims 1-4 and 11, the applicants assert that O'Brien does not teach the limitations recited in the claim. Applicants particularly assert that the difference in hue for the selected and compared pixels cannot be defined as noise. The examiner disagrees. The difference in hue for the selected and compared pixels is random fluctuation of error or undesired disturbance. If this is not true, then it would not be necessary for the system of O'Brien to compute in order to remove noise artifacts (note paragraphs 0014, 0015, 0023). The disclosure of O'Brien is to provide clarity of resolution and display (note paragraph 0003), which means that the signal received via broadcast networking medium was distorted by noise and distracting effects (note paragraph 0010), which will be removed by the system of O'Brien. Since some of the pixels distorted, the difference in hue between the selected distorted pixels are computed, hence is noise of random fluctuation of error or undesired disturbance.

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Regarding claim 5, O'Brien teaches all subject matter claimed, as applied to claim 1, however, does not explicitly teach wherein the amount of noise is correlated using an instantiation of a Finite Impulse Response (FIR) filter. Childers teaches in a similar field of endeavor of processing video signals wherein a filter is applied to the signals using FIR or IIR filters through software programmable device (note c.42, l.1-5). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the teaching of Childers into the filter of O'Brien wherein the filter is FIR or IIR filters for the purpose of increasing the flexibility of the system through software programmable device (note c.42, l.1-5).

Regarding claim 6, O'Brien teaches all subject matter claimed, as applied to claim 1, however, does not explicitly teach wherein the amount of noise is correlated using an instantiation of a Infinite Impulse Response (IIR) filter. Childers teaches in a similar field of endeavor of processing video signals wherein a filter is applied to the signals using FIR or IIR filters through software programmable device (note c.42, l.1-5). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the teaching of Childers into the filter of O'Brien wherein the filter is FIR or IIR filters for the purpose of increasing the flexibility of the system through software programmable device (note c.42, l.1-5).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by O'Brien US 2002/0061062 A1.

Regarding claim 1, O'Brien discloses a method for reducing artifacts in a video stream, comprising the steps of: decoding the video stream (30 in Fig.1); and adding noise to at least one pixel in a picture in the video stream following decoding in an amount correlated to additive noise of pixels in at least one prior picture (note paragraphs 0053, 0054, picture or frame  $i+1$  is applied with added noise of weighted corrected measures of R G B multiplied by one-third of frame  $i$  or prior picture or frame. The disclosure of O'Brien is to provide clarity of resolution and display (note paragraph 0003), which means that the signal received via broadcast networking medium was distorted by noise and distracting effects (note paragraph 0010), which will be removed by the system of O'Brien. Since some of the pixels distorted, the difference in hue between the selected distorted pixels are computed, hence is noise of random fluctuation of error or undesired disturbance).

Regarding claim 2, O'Brien further discloses wherein the at least one prior picture comprises a previously displayed picture (note paragraph 0010).

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Regarding claim 3, O'Brien further discloses where the at least one prior picture comprises a previously decoded picture (picture or frame I, note paragraphs 0053, 0054).

Regarding claim 4, O'Brien further discloses wherein the amount of noise is correlated in accordance with a correlation factor  $a$  having a value such that  $0 \leq a \leq 1$  (multiplied by correlation factor of  $1/3$ , note paragraph 54).

Regarding claim 11, the claim is rejected as applied to claim 1 with similar scope. O'Brien further discloses additive noise of at least one other pixel in the picture (pixel<sub>a</sub> or pixel<sub>b</sub> in Fig.5).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Brien US 2002/0061062 A1 in view of Childers et al. US 5,210,836 (Childers).

Regarding claim 5, O'Brien teaches all subject matter claimed, as applied to claim 1, however, does not explicitly teach wherein the amount of noise is correlated using an instantiation of a Finite Impulse Response (FIR) filter. Childers teaches in a

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similar field of endeavor of processing video signals wherein a filter is applied to the signals using FIR or IIR filters through software programmable device (note c.42, I.1-5). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the teaching of Childers into the filter of O'Brien wherein the filter is FIR or IIR filters for the purpose of increasing the flexibility of the system through software programmable device (note c.42, I.1-5).

Regarding claim 6, O'Brien teaches all subject matter claimed, as applied to claim 1, however, does not explicitly teach wherein the amount of noise is correlated using an instantiation of a Infinite Impulse Response (IIR) filter. Childers teaches in a similar field of endeavor of processing video signals wherein a filter is applied to the signals using FIR or IIR filters through software programmable device (note c.42, I.1-5). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the teaching of Childers into the filter of O'Brien wherein the filter is FIR or IIR filters for the purpose of increasing the flexibility of the system through software programmable device (note c.42, I.1-5).

### ***Allowable Subject Matter***

6. Claims 7-10 and 12-32 are allowed.

### ***Conclusion***

**7. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Ahn whose telephone number is (571) 272-3044. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sam K. Ahn/  
Primary Examiner, Art Unit 2611

10/12/2010



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